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1 Disk cache—miss ratio analysis and design considerations



Alan J. Smith

August 1985 **ACM Transactions on Computer Systems (TOCS)**, Volume 3 Issue 3

Publisher: ACM Press

Full text available: pdf(3.13 MB)

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The current trend of computer system technology is toward CPUs with rapidly increasing processing power and toward disk drives of rapidly increasing density, but with disk performance increasing very slowly if at all. The implication of these trends is that at some point the processing power of computer systems will be limited by the throughput of the input/output (I/O) system. A solution to this problem, which is described and evaluated in this paper, is disk cache

2 Designing computer systems with MEMS-based storage



Steven W. Schlosser, John Linwood Griffin, David F. Nagle, Gregory R. Ganger

November 2000 **ACM SIGOPS Operating Systems Review**, **ACM SIGARCH Computer Architecture News**, **Proceedings of the ninth international conference on Architectural support for programming languages and operating systems ASPLOS-IX**, Volume 34, 28 Issue 5, 5

Publisher: ACM Press

Full text available: pdf(439.06 KB)

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For decades the RAM-to-disk memory hierarchy gap has plagued computer architects. An exciting new storage technology based on microelectromechanical systems (MEMS) is poised to fill a large portion of this performance gap, significantly reduce system power consumption, and enable many new applications. This paper explores the system-level implications of integrating MEMS-based storage into the memory hierarchy. Results show that standalone MEMS-based storage reduces I/O stall times by 4-74X over ...

3 Designing computer systems with MEMS-based storage



Steven W. Schlosser, John Linwood Griffin, David F. Nagle, Gregory R. Ganger

November 2000 **ACM SIGPLAN Notices**, Volume 35 Issue 11

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4 Frangipani: a scalable distributed file system



Chandramohan A. Thekkath, Timothy Mann, Edward K. Lee

October 1997 **ACM SIGOPS Operating Systems Review , Proceedings of the sixteenth ACM symposium on Operating systems principles SOSP '97**, Volume 31 Issue 5

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